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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,555	07/25/2003	Nicolas Eches	CELA:104	9329
27890	7590	06/15/2006	EXAMINER CHAMBERS, TROY	
STEPTOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			ART UNIT 3641	PAPER NUMBER

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/626,555

Applicant(s)

ECHES ET AL.

Examiner

Troy Chambers

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. The amendments to claims 1-5 and 7 are acknowledged.
2. Claims 1-10 are pending.
3. Claims 9 and 10 have been previously withdrawn from consideration.

***Response to Arguments***

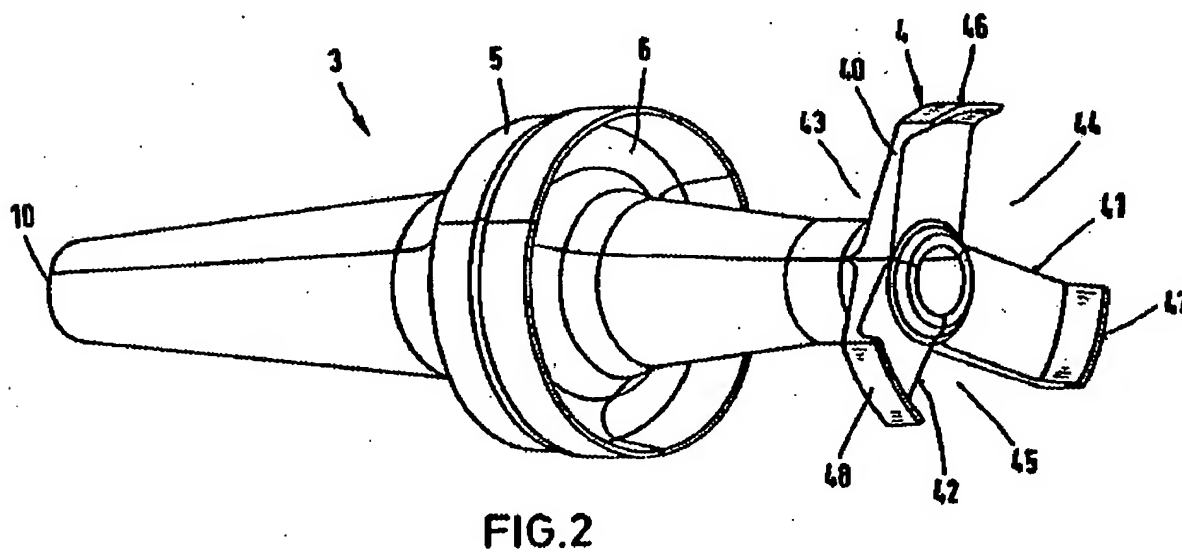
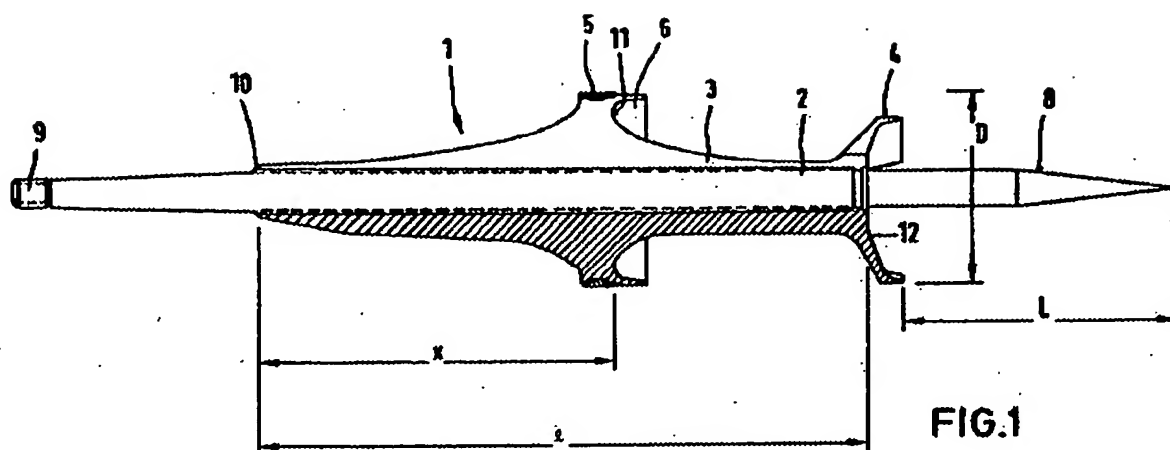
4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

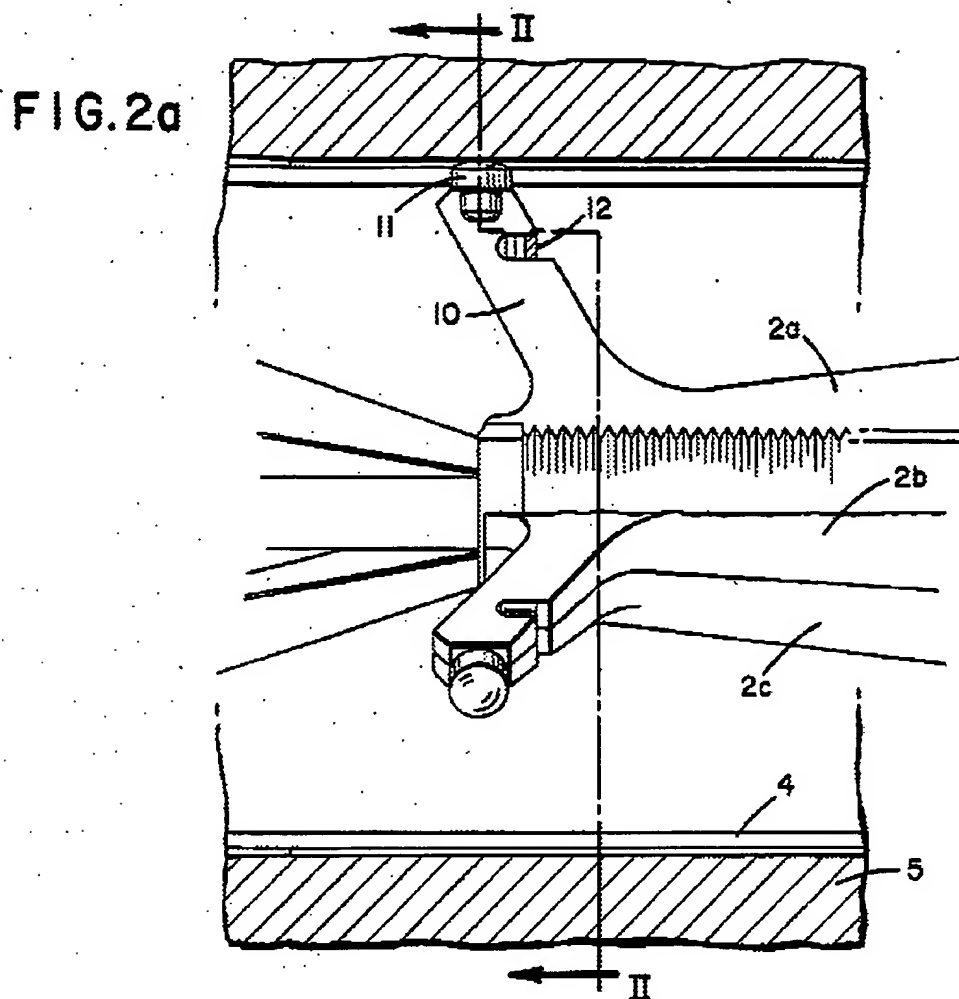
5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5289777 issued to Sippel in view of US 4524695 issued to Bisping.
7. Sippel discloses a sub-caliber penetrator having a sabot comprising at least 2 segments with each segment comprising:
  - a. a full-caliber forward support with arms;
  - b. a full-caliber median support; and,
  - c. a less than full-caliber radial extent of some axial length.



Sippel does not disclose a substantially full gun barrel caliber rear support comprising radial studs. Bisping discloses such a feature as shown below.



At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the sub-caliber projectile of Sippel with the rear support of Bisping. The suggestion/motivation for doing so would have been to allow for a practically constant compressive pressure and assure a proper guidance of the projectile during the barrel phase.

8. Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sippel and Bisping as applied to claim 1 above, and further in view of established case law. The combination of Sippel and Bisping is as described above with the

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exception of the specific dimensions disclosed in claims 2 and 4. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide said dimensions, since it has been held that discovering an optimum value of a result specific variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, USPQ 215 (CCPA 1980). Moreover, the dimensions were not disclosed as being critical to the invention.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sippel, Bisping and case law as applied to claims 1, 4 and 5 above, and further in view of US 5313889 issued to Wilkerson. The combined sub-caliber projectile is as described above with the exception of the arm having a plastic foot. Wilkerson discloses such a foot 46. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device as discussed above with the foot disclosed in Wilkerson. the suggestion/motivation for doing so would have been to assist the projectile to seat in a more satisfactory operational position in the gun tube and to maintain interference contact with the gun bore (col. 4, ll. 9-12).

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

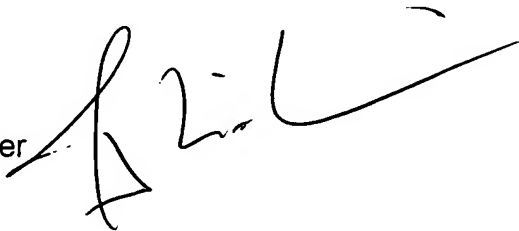
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (571) 272-6874 between the hours of 7:00 a.m. to 3:30 p.m., M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (571) 272-6873.

Troy Chambers  
Primary Examiner  
Art Unit 3641

A handwritten signature in black ink, appearing to read 'T. Chambers', written over the printed name of the examiner.

TC  
08 June 2006